

Linus Torvalds

Biography

Linus Torvalds was born in Helsinki in 1969. He is a software engineer renowned internationally for his leading role in the development of the Linux operating system and the distributed version control system Git. He was named after Linus Pauling, a Nobel-Prize winning chemist. As a child his grandfather, Leo Toernqvist who was a professor of statistics at the University of Helsinki, played a significant role in influencing him. Aged 10 Linus would use his grandfather's Commodore Vic 20. He soon became bored of the limited number of programmes and started to develop his own new ones. In 1998 he attended the University of Helsinki where he graduated with a master's in computer science. While at university he purchased his own computer. He was disappointed with the disk operating system from Microsoft and much preferred the Unix system he had become accustomed to on the computers he had been using in college. However, the cheapest price for this system was \$5000 so he began to develop his own named Linux.



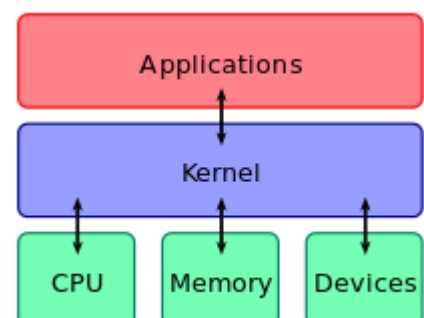
After spending years at the University of Helsinki whilst he worked tirelessly on Linux, he eventually moved to California in 1997 with his newly started family to begin working with Transmeta Corporation. His role there was to develop software which helped facilitate communication between operating systems and the company's microprocessors. Transmeta allowed Torvalds to spend some of his time continuing to work on Linux as by this stage he was famous worldwide and was generating them a great deal of free publicity. As he had given Linux away for free he had up until now earned very meagre financial rewards for his work. He claims to have never been interested in generating huge amounts of money for himself and that his motivation for everything he did was "just for fun". Having said that in 1999 Torvalds suddenly became exceedingly rich when two leading Linux software development companies who had given him stock options as a token of gratitude went public (Linfo, 2006).

Currently he works in Oregon for the Open Source Development labs, who are funded by a group of large tech companies such as IBM and Siemens to promote Linux development. He keeps a low profile in the public eye and generally avoids commenting on competing software products. Linus has a keen interest in scuba diving, accumulating multiple certifications. This interest was the driving force for him developing Subsurface which is software for logging and planning scuba dives.

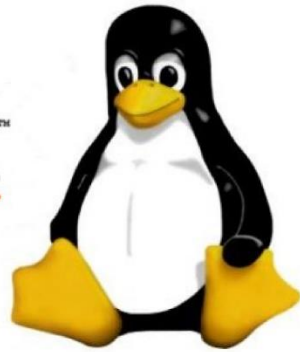
Work

Linux

Torvalds' most significant work was his development of the Linux Kernel. A kernel is a computer programme that is the principal part of an operating system, with complete control over everything in the system. It mediates the access to the system's resources. It controls access to CPU, memory, disk I/O, and networking.



Linux™



As stated, Torvalds was motivated to create his own version of Unix as it was too expensive and also for fun. The initial version was created just for his personal computer without any cross-platform intentions, consisting of just 10239 lines of code. Torvalds announced his plans for the project and later its initial completion on MINIX newsgroup comp.os.minix in 1991. These posts are famous today as the beginning of what would turn out to be the biggest collaborative software project in history. This initial version took him roughly a

month to complete by himself. The system was originally named Linux, a combination of his own name and Unix but he decided to abandon it as he thought it self-centred. He renamed it Freax but his friend Ari Lemmke who had been encouraging him to upload his code to a server to make it easily accessible had already named the server Linux which stuck (Linfo, 2006).

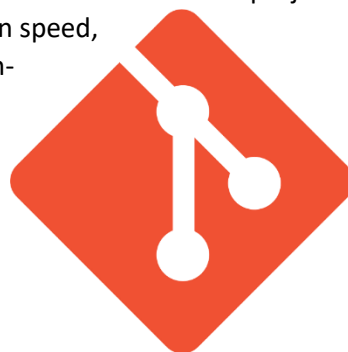
Because of his decision to share it publicly many people from across the globe would help to amend, improve and add to the code. It was released with a General Public License. This allowed anyone to study, use, modify, extend and redistribute the software providing they make the source code available for any modified versions they go on to create and then distribute themselves. Because of this decision to collaborate and share, Linux grew at a rapid pace.

Today only about 2% of the code for the kernel has been written by Torvalds himself. While its prominence in desktop computers isn't particularly high, it does lead in usage in almost all other forms of computing. A huge spike in the usage of the Linux kernel has arisen in recent years with its use in the Android Operating System which is extremely popular in the mobile phone industry. The top 500 supercomputers in the world as of November 2017 all use Linux (Top500, 2017).

Git

Git is a version-control system for tracking changes in computer files and to help coordinate work between multiple people on the files. Linus Torvalds created Git in 2005 to aid the development of the Linux kernel. Like Linux itself, Git is free open-source software. Git is the world's most popular code management tool with the stack overflow developers survey in 2015 stating that 69.3% of developers use it (Stack Overflow, 2015).

In the beginning of the communal development of the Linux kernel any changes were done in the form of patches and archived files. In 2002 they began to use a version control system called BitKeeper. However, in 2005 BitKeeper changed their free to use status to a paid model which was at ends with the ethos of the people involved in the Linux project. This prompted Torvalds to create his own new VCS with an emphasis on speed, simple design, strong support for non-linear development, fully distributed and ability to handle large projects. It is renowned for its fantastic branching system used in non-linear development (Git, 2018).



git

Impact

With the creation of Linux and Git, Torvalds has influenced almost every developer in the world who came after him in a meaningful way. Linux is present in billions of devices across the world such as phones, personal computers, smartwatches etc. Its use in websites such as Google and Facebook mean almost all of us will interact with it in some fashion on a daily basis. Nowadays all software engineers can be judged by their GitHub profile. You can display an entire portfolio of code you've written where prospective employers can view and examine its quality. Furthermore, it has greatly assisted in collaborative projects especially when working with people spread across different parts of the world (Wulf, 2017).

Torvalds has won acclaim and recognition from all sides throughout his life. He has earned multiple awards from doing so such the Millennium Technology Prize in 2012, the C&C Prize in 2010 and being inducted into the Internet Hall of Fame in 2012 to name but a few. In 2013 the asteroid moon Linus earned its name because the discoverer was a huge fan of Linux and Torvalds' work. In 2004 he was named by Time magazine as one of the most influential people in the world.

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